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RECENTLY PUBLISHED RESEARCH OF THE
KALININ INSTITUTE OF NONFERROUS METALS AND GOLD, MOSCOW

"Rational Analysis of Nickel Compounds," G. A. Shakhov
and M. M. Voekresenskaya, Khimlin Inst Nonferrous
Metals, Moscow

"Zavod Lab" Vol 13, 1947, pp 156-60

A method was sought for the separation of NiO , Ni_2S_3 , and NiSiO_3 . In finely ground mixtures of the three compounds boiling 10% H_2SO_4 dissolved all of the Ni_2S_3 and nearly 90% of the NiSiO_3 , leaving the (ignited) NiO unchanged. On heating with a concentrated aqueous solution of NH_4F and NH_4 citrate (5:1 by wt) for 4 hours, about 7% of the Ni_2S_3 and about 50% of the NiSiO_3 went into solution. H_2SO_4 (27%) dissolves neither the NiO nor the NiSiO_3 and dissolves part of the Ni_2S_3 only very slowly. Satisfactory separation was obtained by means of $\text{AcOH} + \text{H}_2\text{O}_2$: (80 ml glacial $\text{AcOH} + 80 \text{ ml } \text{H}_2\text{O} + 40 \text{ ml } 7\% \text{H}_2\text{O}_2$); on heating at 60° , 6 hours, only Ni_2S_3 is dissolved; in the residue, NiSiO_3 is dissolved with 10% H_2SO_4 ; the residual NiO is then dissolved in aqua regia.

"Measurement of Viscosity by the Ball and Counterpoise Method," Y. M. Marshak, Kalinin Inst of Nonferrous Metals and Gold, Moscow

"Zavod Iab" Vol 12, 1946, pp 324-7

The viscometer consists of an ordinary laboratory balance with a sensitivity of 0.01-0.02 g. The accuracy is increased by lengthening the pointer 2.5 times and lowering the scale correspondingly. A steel ball with a screwed-in steel core is suspended from the beam by means of a chain, which insures a vertical position of the ball. The diameter of the cylinder

- 1 -

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with the sample solution is 38 mm and that of the ball 15.97 mm. The results of measurement do not depend on the weight of the ball, or on the height, provided the velocity does not exceed the limiting values for the given instrument. The Stokes-Ladenburg-Henlein equation can be applied only when a large correction coefficient (4.75) is used. The deviations of results were $\pm 5-7\%$ when the simplified equation $K\eta/v$ (K is the wt in g, v the velocity in cm/sec, and K the constant) was used. Reproducible results were obtained if the η was no less than 6-7 poises.

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- 2 -